

**IN THE CLAIMS**

Please amend the claims as follows:

1. **(Currently Amended)** An adeno-associated virus vector ~~capable of~~ for expressing ~~a peptide fragment containing a humoral immunity induction site of~~ the  $\beta$ -amyloid peptide in intestinal cells, comprising DNA encoding said  $\beta$ -amyloid peptide ~~fragment~~ and DNA encoding signal peptide capable of extracellularly secreting said  $\beta$ -amyloid peptide, in an operative form.

Claim 2 **(Cancelled)**.

3. **(Currently Amended)** The adeno-associated virus vector according to claim 1, wherein said  $\beta$ -amyloid peptide ~~fragment~~ comprises the amino acids 4 to 10 of the amino acid sequence as shown in SEQ ID NO: 2.

4. **(Currently Amended)** The adeno-associated virus vector according to claim 1, wherein the DNA encoding said  $\beta$ -amyloid peptide ~~fragment~~ comprises the nucleotides 10 to 30 of the nucleotide sequence as shown in SEQ ID NO: 1.

Claim 5 **(Cancelled)**.

6. **(Currently Amended)** The adeno-associated virus vector according to claim 1, wherein said  $\beta$ -amyloid peptide ~~fragment~~ comprises the amino acid sequence as shown in SEQ ID NO: 2.

7. **(Currently Amended)** The adeno-associated virus vector according to claim 1, wherein the DNA encoding said  $\beta$ -amyloid peptide ~~fragment~~ comprises the nucleotide sequence as shown in SEQ ID NO: 1.

Claim 8 (Cancelled).

9. **(Currently Amended)** The adeno-associated virus vector according to claim 1, wherein said  $\beta$ -amyloid peptide ~~fragment~~ comprises amino acid sequence as shown in SEQ ID NO: 4.

10. **(Currently Amended)** The adeno-associated virus vector according to claim 1, wherein the DNA encoding said  $\beta$ -amyloid peptide ~~fragment~~ comprises the nucleotide sequence as shown in SEQ ID NO: 3.

Claim 11 (Cancelled).

12. **(Currently Amended)** The adeno-associated virus vector according to claim **[11]** 1, wherein said signal peptide is a signal peptide of amyloid precursor protein.

13. **(Currently Amended)** The adeno-associated virus vector according to claim **[11]** 1, wherein said signal peptide comprises the amino acid sequence as shown in SEQ ID NO: 6.

14. **(Currently Amended)** The adeno-associated virus vector according to claim **[11]** 1, wherein the DNA encoding said signal peptide comprises the nucleotide sequence as shown in SEQ ID NO: 5.

15. **(Currently Amended)** A pharmaceutical composition for treating Alzheimer's disease, comprising the adeno-associated virus vector of ~~any of~~ claim[s] ~~1 to 14~~.

16. **(Currently Amended)** A pharmaceutical composition according to claim[s] 15 for oral administration.

17. **(Currently Amended)** A method for treating Alzheimer's disease, comprising administering the adeno-associated virus vector of ~~any one of~~ claim[s] 1 ~~to 14~~ in a therapeutically effective amount to a subject.

18. **(Currently Amended)** Use of the adeno-associated virus vector of ~~any one of~~ claim[s] 1 ~~to 14~~ for the manufacture of therapeutic agents for Alzheimer's disease.